

**AMENDMENTS TO THE DRAWINGS**

Applicant amends FIG. 2B and is submitting a formal substitute drawings of FIG. 2B with this Amendment. Applicant respectfully requests the Examiner to acknowledge receipt of the formal drawing.

The attached replacement sheet includes the following changes:

In FIG. 2B, the label “RADIO BASE STATIONS B TO D” has been replaced with the label “RADIO BASE STATION C”.

Attachment: 1 Replacement Sheet

**REMARKS**

With this Amendment, Applicant adds new claims 8-9, and amends claims 1-7. No new matter is added. Therefore, claims 1-9 are all the claims currently pending in the present application. The amendments to claims 3-5 are not made for reasons of patentability and do not narrow the scope of the claims or equivalents.

**I. Formal Matters**

Applicant thanks the Examiner for acknowledging Applicants' claim to foreign priority pursuant to 35 U.S.C. § 119, and for confirming that the certified copy of the priority document was received.

Applicant thanks the Examiner for acknowledging receipt of the Information Disclosure Statements filed February 13, 2001, January 11, 2002, September 26, 2002, and for considering the references cited therein.

Applicant thanks the Examiner for indicating his approval of the drawings during a telephone call on September 20, 2004.

**II. Objection to Specification**

The Examiner objects to the title of the invention as not being descriptive as indicated on page 2 of the Office Action. Applicant amends the title as indicated herein and requests the Examiner to withdraw this objection.

**III. Claim Rejections under 35 U.S.C § 102(e) over Tuutijarvi**

Claims 1 and 7 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Tuutijarvi. For at least the following reasons, Applicant respectfully traverses these rejections.

**Claim 1**

Regarding claim 1, Tuutijarvi fails to disclose, teach, or suggest at least a mobile phone system comprising *inter alia*, a plurality of base stations, wherein each of the plurality of base stations includes circuitry to transmit a logical control channel signal in a designated transmission time slot of a frame, the designated transmission time slot being the same for each of the plurality of base stations, as recited in claim 1. Tuutijarvi also fails to disclose, teach, or suggest at least one mobile phone which includes circuitry to receive the logical control channel signal in a designated reception time slot of the frame, as required by claim 1. Additionally, Tuutijarvi fails to disclose, teach, or suggest wherein when receiving the logical control channel signal in the designated reception time slot of the frame, the at least one mobile phone receives an information channel signal in an other reception time slot of the frame, as recited in claim 1.

The Examiner relies on Tuutijarvi to teach all of the limitations of claim 1. Particularly, the Examiner cites to column 2, lines 46, 67, column 8, lines 1-10 and refers to Figures 1 and 4b of Tuutijarvi as teaching the designated transmission time slot and the designated reception time slot required by claim 1. Applicant respectfully submits that Tuutijarvi does not disclose, teach or otherwise suggest the features of claim 1.

Contrary to the assertion of the Examiner, Applicant submits that the cited portions of Tuutijarvi and Figures 1 and 4b merely discloses the structure of a 6.67 ms reception time slot

(RX) “sent to [a] mobile phone by a [single] base station” according to the mobile system disclosed by Tuutijarvi.<sup>1</sup> (Col. 2, line 67 & Col. 3, lines 1-2).

The 6.67 ms reception time slot (RX) shown in Figure 4b of Tuutijarvi does not disclose wherein each of a plurality of base stations includes circuitry to transmit a logical control channel signal in designated transmission time slot of a frame. Instead, the 6.67 ms reception time slot (RX) shown in Figure 4b of Tuutijarvi is simply a single reception time slot within an entire TDMA frame, as shown in Figures 2a and 2b. (*See* Figures 2a and 2b.) For instance, Figure 2a shows an entire TDMA frame for a Full Rate Frame Structure, which uses two transmission slots (TX) and two reception slots (RX). Each transmission slot and each reception slot are always followed by an idle time slot (IDLE), which totals six time slots in a 40 ms TDMA frame as shown in Figure 2a. (Col. 2, lines 52-59). Similarly, Figure 2b shows an entire TDMA frame for a Half Rate Frame Structure, which uses a single transmission time slot, and a single reception time slot followed by an idle time slot which totals three time slots in a 20 ms TDMA frame. (Col. 2, lines 59-65). The length of each time slot in either the Full Rate or Half Rate Frame Structure is 6.67 ms, which corresponds to the length of the 6.67 ms reception time slot (RX) shown in Figure 4b of Tuutijarvi. (Col. 2, lines 53-54). Accordingly, the reception time slot (RX) displayed in Figure 4b is merely a single time slot corresponding to a portion of a TDMA frame sent from a single base station.

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<sup>1</sup> *See* Col. 1, lines 32-34 of Tuutijarvi asserting that Figs. “4a and 4b show the structure of time slots.” *See also* Col. 2, lines 37-40 & Figs. 4a and 4b of Tuutijarvi explaining that bits of a frame are spread “into several time slots.”

Since the 6.67 ms reception time slot (RX) shown in Figure 4b of Tuutijarvi merely displays the structure of a “burst”<sup>2</sup> sent from a single base station, Tuutijarvi is simply silent on the manner in which a plurality of base stations transmit a logical control channel signal. That is, contrary to the assertion of the Examiner, there simply is no disclosure in Tuutijarvi suggesting that one of the transmission time slots within the TDMA frames shown in Figures 2a and 2b of Tuutijarvi is a designated transmission time slot for transmitting a logical control channel signal. Accordingly, the 6.67 ms reception time slot (RX) shown in Figure 4b of Tuutijarvi does not teach that each of the plurality of base stations shown in Figure 1 of Tuutijarvi include circuitry to transmit a logical control channel signal in a designated transmission slot of a frame, the designated transmission slot being the same for each of the plurality of base stations, as required by claim 1.

Furthermore, the 6.67 ms reception time slot (RX) sent to the mobile phone by a single base station does not suggest a designated transmission time slot of a frame. As shown in Figure 4b of Tuutijarvi, each 6.67 ms reception time slot (RX) comprises 324 data bits.<sup>3</sup> Thus, “SACCH,” which the Examiner incorrectly alleges is a logical control channel signal, comprises 12 data bits and is located within the 6.67 ms reception slot (RX) (shown in Tuutijarvi) *along with speech data* such as “DATA” which has 130 bits and “SYNC” which has 28 bits. Even if it

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<sup>2</sup> See Col. 2, lines 33-43 noting that time slots such as those shown in Figs. 4a and 4b, illustrate “a burst to be transmitted.”

<sup>3</sup> See Col. 3, lines 8-11 of Tuutijarvi explaining that the numbers above the “words” SYNC, SACCH, DATA, CDVCC, DATA, and RSVD total 324 data bits); *See also* Col. 2, lines 54-57 & Col. 8-11 of Tuutijarvi pointing out that the both the 6.67 ms transmission time slot (TX) shown in Fig. 4a of Tuutijarvi and the 6.67 ms reception time slot (RX) shown in Figure 4b of Tuutijarvi contain 260 data bits (i.e., the words “DATA” total 260 bits).

were assumed in this case that “SACCH” is a logical control channel signal, since the number 12 above “SACCH” signifies the number of bits corresponding to “SACCH,” the number 12 above “SACCH” does not constitute a specific predefined location for transmitting a logical control channel signal to a mobile phone as alleged by the Examiner. Evaluation of Figure 4a of Tuutijarvi, which shows the structure of a 6.67 ms transmission time slot (TX) “sent by [a] mobile phone” also confirms that the number 12 located above “SACCH” is not a specific predefined location in which each of a plurality of base stations transmit a logical control channel signal. In other words, since “SACCH” is located in different positions within the 6.67 ms transmission time slot (TX) shown in Figure 4a and the 6.67 ms reception time slot (RX) shown in Figure 4b of Tuutijarvi the 6.67 ms reception time slot (RX) does not teach a designated transmission time slot.

As demonstrated, Tuutijarvi does not disclose, teach or suggest that each of a plurality of base stations includes circuitry to transmit a logical control channel signal in a designated transmission time slot of a frame, the designated transmission time slot being the same for each of the plurality of base stations, as recited by claim 1. For at least this reason, Tuutijarvi does not anticipate claim 1.

Additionally, Tuutijarvi does not teach the designated reception time slot as recited in claim 1. Similar to the Examiner’s assertion that Figure 4b of Tuutijarvi teaches the designated transmission time slot, the Examiner also asserts that the 6.67 ms reception time slot (RX) displayed in Figure 4b of Tuutijarvi, teaches the designated reception time slot as claimed. To be precise, the Examiner alleges that the number 12 above “SACCH” represents a specific predefined location for receiving a logical control channel signal at a mobile phone. (See pg. 3

of the Office Action). However, as discussed above, Applicant submits that this interpretation is incorrect given that the number 12 merely specifies the number of bits representing “SACCH.”<sup>4</sup>

Notwithstanding the fact that the number 12 is not a predefined location for receiving a logical control channel signal, the 6.67 ms reception slot shown in Figure 4b of Tuutijarvi does not suggest a designated reception time slot for the same reasons that Figure 4b of Tuutijarvi does not suggest each of a plurality of base stations include circuitry to transmit a logical control channel signal in a designated transmission time slot of a frame, as discussed above. Simply stated, even if “SACCH” were assumed to be a logical control channel signal, because “SACCH” is contained within the 6.67 ms reception time slot (RX) (shown in Figure 4b of Tuutijarvi) along with other speech data, Tuutijarvi does not disclose at least one mobile phone which includes circuitry to receive the logical control channel signal in a designated reception time slot of the frame as taught by claim 1.<sup>5</sup> For this additional reason, Tuutijarvi does not disclose, teach, or otherwise suggest the features recited in claim 1 and thus, Tuutijarvi does not anticipate claim 1.

There is another reason that Tuutijarvi does not anticipate claim 1. In particular, Tuutijarvi also does not disclose, teach, or otherwise suggest wherein when receiving the logical control channel signal in the designed reception time slot of the frame the at least one mobile phone receives an information channel signal in an other reception time slot of the frame, as

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<sup>4</sup> See Col. 2, line 40 & Col. 3, lines 8-11 explaining that the numbers above the “burst” shown in Figs. 4a and 4b of Tuutijarvi represent a total of “324 bits in a time slot, of which 260 are data bits” containing speech.

<sup>5</sup> Notwithstanding the fact that the Examiner did not refer to Fig. 4a as teaching the features of claim 1, Applicant submits that Fig. 4a suffers the same deficiencies as Fig. 4b of Tuutijarvi.

required by claim 1. Tuutijarvi is simply silent on the matter of a mobile phone receiving an information channel signal in an other reception time slot of the frame.

Accordingly, Applicant respectfully submits that claim 1 is patentable for at least the reasons discussed above. Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw the § 102(e) rejection of claim 1.

**Claim 7**

Since claim 7 contains features that are similar to the features recited in claim 1, Applicant submits that claim 7 is allowable over Tuutijarvi for at least reasons analogous to those discussed above with respect to claim 1. As discussed, Applicant submits that Tuutijarvi fails to disclose at least transmitting a logical control channel signal from each of a plurality of base stations in a designated transmission time slot of a frame, as required by claim 7. Moreover, Tuutijarvi fails to disclose at least receiving the logical control channel signal in a designated reception time slot of the frame corresponding to the designated transmission time slot of each of the plurality of base stations, at a mobile phone, as recited in claim 7. Applicant also submits that Tutitijarvi fails to disclose at least wherein when receiving the logical control channel signal in the designated reception time slot of the frame, the mobile phone receives an information channel signal in an other reception time slot of the frame, as claimed.

For at least these reasons, Applicant submits that claim 7 is patentable over Tutitjarvi and Applicant respectfully requests the Examiner to reconsider and withdraw the § 102(e) rejection of claim 7.

**IV. Claim Rejections under 35 U.S.C. § 103(a) - Tuutijarvi in view of Strat**

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tuutijarvi in view of Strat.

Applicant submits that the Strat reference fails to compensate for the deficiencies of the Tuutijarvi reference, as discussed above with respect to claim 1, and therefore, that claim 2 is patentable at least by virtue of its dependence on patentable claim 1. Accordingly, Applicant respectfully requests the Examiner to withdraw the § 103(a) rejection of claim 2.

**V. Claim Rejections under 35 U.S.C. § 103(a) - Tuutijarvi in view of Yahata**

Claims 3-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tuutijarvi in view of Yahata. Applicant traverses these rejections for the reasons discussed below.

**Claims 3-5**

Given that the Yahata reference fails to compensate for the deficiencies of the Tuutijarvi reference, as discussed above with respect to claim 1, claims 3-5 are patentable at least by virtue of their dependence on patentable claim 1.

Additionally, claim 3 is believed to be independently patentable because the references, individually or in combination, fail to teach, suggest, or otherwise provide motivation for the claimed logical control channel signals being successively transmitted from a plurality of base stations, as claimed.

The Examiner asserts that Tuutijarvi discloses successively transmitting logical control channel signals from a plurality of base stations. To be precise, the Examiner alleges that Tuutijarvi discloses that “each base station in the network transmits SACCH.” (*See* pg. 6 of the Office Action.) Applicant submits that the Examiner incorrectly assumes that “SACCH” is a

logical control channel signal. Further, even if it were assumed in this case that “SACCH” is a logical control channel signal, Tuutijarvi is simply silent on the manner in which base stations transmit “SACCH” per the mobile phone system disclosed therein. That is, the Tuutijarvi reference does not disclose whether “SACCH” is transmitted concurrently, successively, intermittingly or otherwise from a plurality of base stations. Similarly, there is no disclosure in Yahata, and the Examiner cites to none, suggesting successively transmitting logical control channel signals from a plurality of base stations.

For this reason, neither Tuutijarvi, Yahata nor any combination thereof teaches all of the features of claim 3.

Therefore, for at least the above reasons, Applicant respectfully requests the Examiner to withdraw the rejections of claims 3-5.

**VI. Claim Rejections under 35 U.S.C. § 103(a) - the combination of Tuutijarvi and Strat, further in view of Hammer**

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tuutijarvi and Strat as applied to claims 1 and 2, and further in view of Hammer.

**Claim 6**

Since the Hammer reference fails to compensate for the deficiencies of the Tuutijarvi and Strat references, and any combination thereof, as discussed above with respect to claims 1 and 2, claim 6 is patentable at least by virtue of its dependence on patentable claim 1. Accordingly, Applicant respectfully requests the Examiner to withdraw the § 103(a) rejection of claim 6.

**VII. New Claims**

Applicant has added claims 8-9 as shown above, to more fully claim the invention. Additionally, Applicant submits that the new claims are fully supported in the original disclosure and are believed to be in condition for allowance.

**VIII. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

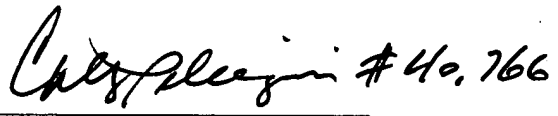
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**23373**

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FIG. 2A

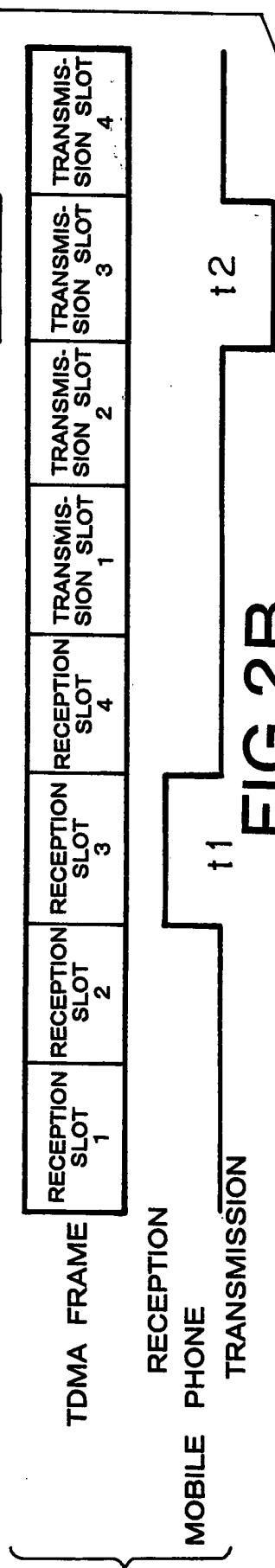
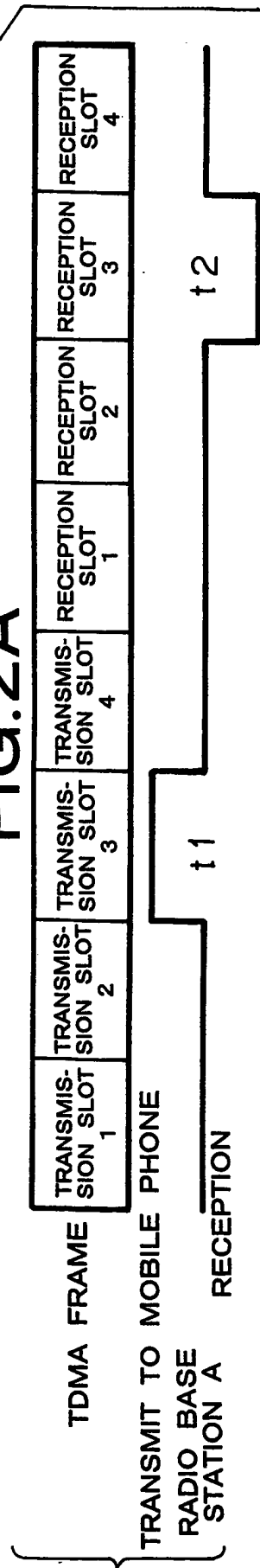


FIG. 2B

